# PE 403

### REPLACEMENT SHEET

Method of Making Relaxed Silicon-Germanium on Insulator via Layer Transfer with Stress Reduction Serial No.: 10/677,005

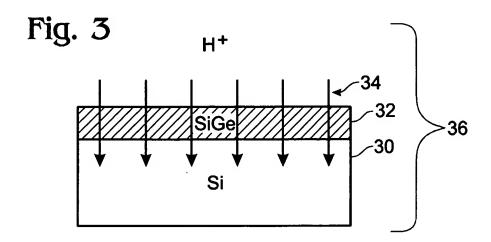
Jer-shen Maa; Jong-Jan Lee; Douglas James Tweet; Sheng Teng Hsu

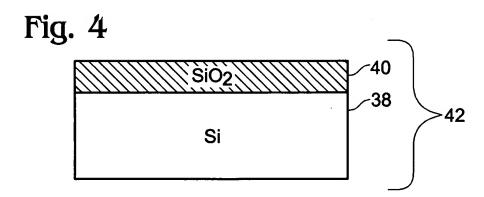
Fig. 1 **1**0 -12 PREPARE SILICON SUBSTRATE **DEPOSIT SIGE ON SILICON SUBSTRATE** <sub>-</sub>16 IMPLANT HYDROGEN IONS TO DEPTH BELOW SI/SIGE INTERFACE -18 PREPARE SILICON OXIDE SUBSTRATE -20 BOND SILICON OXIDE SUBSTRATE TO SIGE ~22 THERMAL ANNEAL TO SPLIT SI & SIGE FROM SILICON SUBSTRATE ~24 PATTERN & ETCH TO REMOVE TOP SILICON & SiGe LAYER **~26** 2d THERMAL ANNEAL TO RELAX SiGe **~28 DEPOSIT STRAINED SILICON LAYER** 

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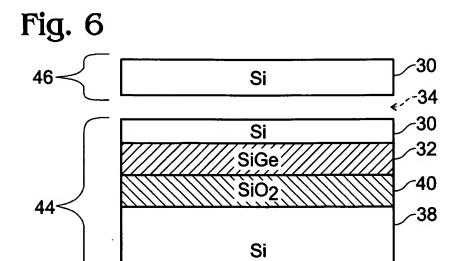
Fig. 5

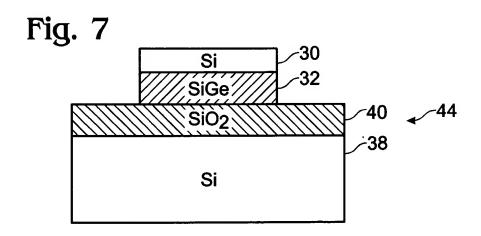
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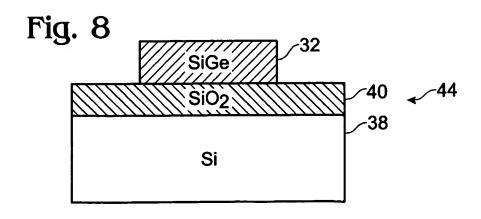
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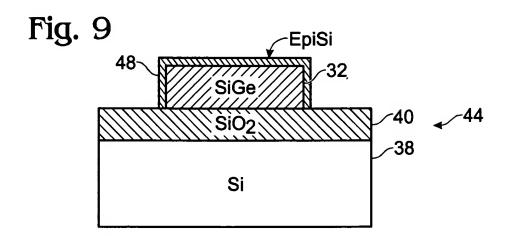


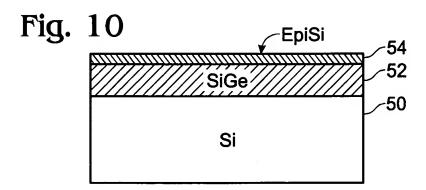


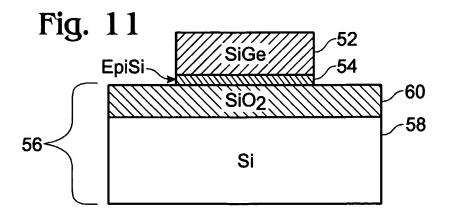


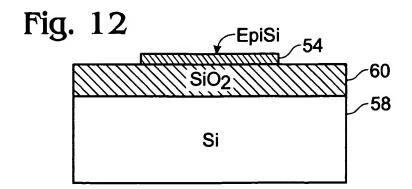
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Fig. 13

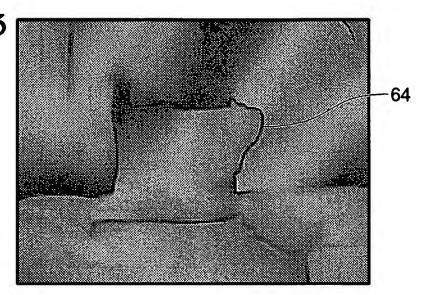


Fig. 14

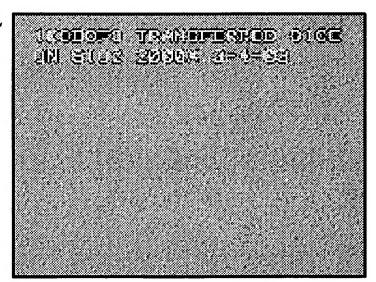
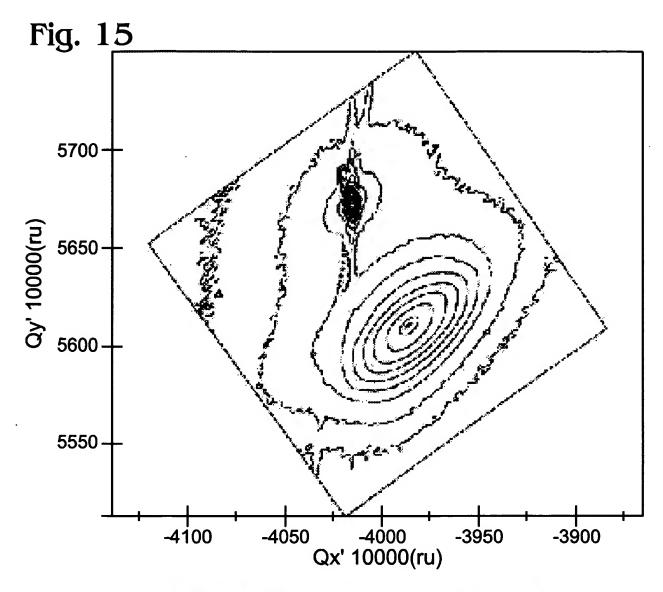


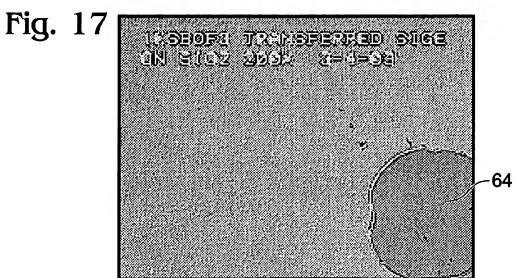
Fig. 16



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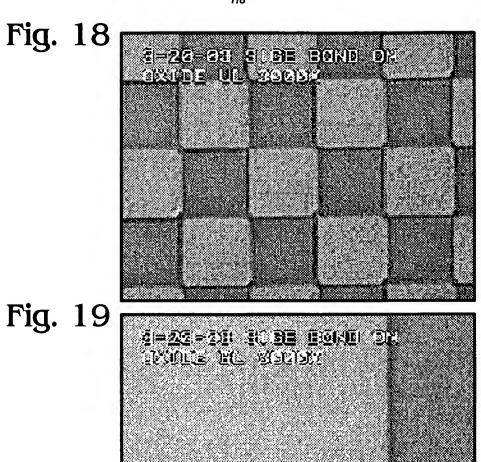
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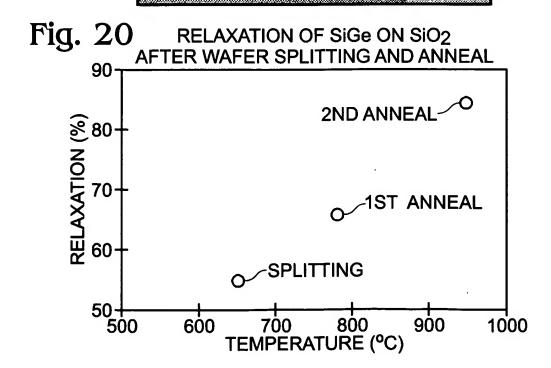




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Fig. 21

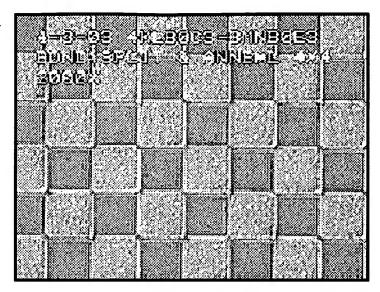


Fig. 22

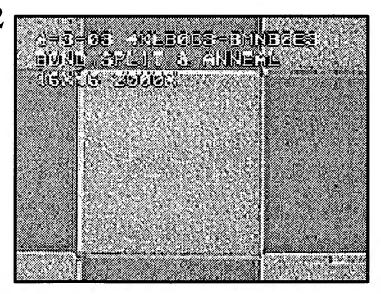


Fig. 23

